

COMPLETE ENVIRONMENTAL MONITORING SOLUTIONS

AXYS Technologies Inc

AXYS Technologies Inc (AXYS) is a developer of remote environmental monitoring solutions. In addition to providing hardware solutions such as buoys, weather and hydrology stations, sensors and control systems, AXYS also provides telemetry, software and consulting solutions to a diverse and worldwide clientele.

In 1974 the AXYS Group began life in a single-room office in Victoria under the name of Seakem Marine Chemistry Consultants Ltd. Its original focus was on oceanographic consulting, with an emphasis on marine chemistry. In 1983 Seastar Instruments Ltd was formed to serve as a focus for the company's increasing involvement in instrument development, including metocean buoys. By 1996 Seastar Optics was sold to SDL and Seastar Instruments Inc was renamed Axyx Environmental Systems Ltd (AES). Sales of meteorological-buoy products and services increased and became the core business for the company. By the late 1990s AES had provided over forty buoy systems for Environment Canada's marine forecasting network, making it the second largest network of its kind in the world. In 1999 AES was renamed AXYS Technologies Inc (AXYS) and the company turned its attention to international markets for its products and services, initially securing sales for buoy networks with Environment Canada and other international customers. Today AXYS is a privately held Canadian company with a staff of thirty, located in Sidney, British Columbia, that continues to successfully design, build and deploy environmental monitoring platforms for customers around the world.

Company Profile

AXYS is an ISO 9001:2000 registered company with over thirty years experience in the design, manufacture and installation of meteorological, oceanographic and environmental data-acquisition systems. The company is made up of a number of business units, including Sales and Marketing, R&D, Production, Customer Service, and Finance & Administration. The Sales and Marketing department is active globally, meeting with new or existing clients, conducting product demonstrations, attending conferences and trade shows, or strengthening its agent distribution network. The AXYS R&D team is continually involved in improving the design and performance of core products such as the TRIAXYS Directional Wave Buoy & Sensor and the WatchMan500 controller. AXYS engineers also take a keen interest in solving new and exciting environmental monitoring challenges.

Three new product creations in the last year include the WatchMan500, a two-way remote Data Acquisition System which forms the 'smarts' behind any AXYS monitoring solution, the HydroLevel buoy for monitoring water elevation, and TRIAXYS with Currents, combining the classic TRIAXYS wave sensor and platform with a downward-looking current profiler. Through its in-house Service Department AXYS offers field services, training and installations, equipment leasing, oceanographic consulting, and technical service support to its many clients in the operation and maintenance of products. Internal systems and process improvements made over the last five years have strengthened the company and provide a solid foundation for future growth.

Product Range

AXYS products can be divided into two main categories: those for marine applications and those for land applications. Marine products include wave buoys and sensors, meteorological and oceanographic monitoring buoys, shipboard weather monitoring systems, port weather monitoring systems, standalone data acquisition systems, custom moorings, satellite telemetry services, and engineering and consulting services. Products such as WatchMan500, WatchKeeper, AVOS, Sentinel and TRIAXYS are all examples of successful products developed at AXYS over the years. AXYS holds three TRIAXYS design patents in the USA, United Kingdom, and Canada, and today more than 130 TRIAXYS buoys are successfully deployed around the world.

Of course, all the hardware wouldn't mean much if there wasn't supporting software behind it to display the data. To this end AXYS software engineers have spent considerable time and effort building and enhancing various software data-display products. First out of the blocks for AXYS was its MetView software. This innovative tool, loaded onto the user's base station, receives data transmissions from monitoring platforms and then converts the data into an easy-to-view user interface showing both tabular and graphical outputs. Shortly afterwards, WaveView was developed for TRIAXYS Directional Wave Buoys. Recently have come two new web data-display tools: Inmarsat D+ Web display software shows data resulting from buoys transmitting via Inmarsat D+ satellite telemetry (of which AXYS is an approved Service Provider), and AXYS WebView is a more generic web display interface for viewing data from our many and varied monitoring platforms. AXYS will continue to enhance and support these software programs for years to come.

AXYS also designs and manufactures turnkey solutions for hydrometric and water-quality monitoring networks for both environmental and industrial applications. Our core technology, the WatchMan500, interfaces with any sensor and any telemetry, in any environment, including tide-gauge and water-level monitoring solutions. Our solutions also provide Data Management Software (DMS) that allows users to remotely manage and control an entire sensor network.

Market View

AXYS products serve a broad and diverse marketplace. Researchers use AXYS buoys for climate, wave and oceanographic purposes. Engineering consulting firms and oil & gas companies use AXYS buoys to gather data in order to ensure the safe installation or operation of industrial equipment. Military users will acquire AXYS equipment for homeland security or covert operation purposes. Some of the more interesting and promising market segments served in recent years include areas generated by tsunami and red-tide needs.

Shortly after the devastating tsunami hit Asia in December 2004 AXYS was inundated with requests to provide tsunami-monitoring solutions. While the company had delivered many ocean-monitoring buoys in the past, it had not provided any with bottom-mounted pressure sensors, a key element of a tsunami-monitoring solution. It soon became apparent that this new and emerging market demand for a high-quality and accurate tsunami-monitoring solution was not going to go away anytime soon. Requests continued to come in over the following months. AXYS began the search to piece required components together in order to satisfy this growing market demand. The company can now, in conjunction with several industry partners, provide a tsunameter as part of its oceanographic-buoy product offering. This solution will allow researchers and other authorities to identify wave-height change and ocean-bottom movement, two key elements in tsunami detection.

'Red tide', also known as Harmful Algal Blooms (HABs), has become a real threat, both from a health and an economic perspective, to those who live or make a living along the coast. The outbreak of red tide can mean significant loss of income for those in the shellfish industry, as well as loss of life to those who inadvertently eat poisoned shellfish. AXYS, in partnership with the University of Victoria, has recently delivered the first two red-tide monitoring buoys for Canada's West Coast. These buoys sample various water-quality parameters every few minutes and send data to a university database every hour. This information can then be stored, analysed, and decisions made accordingly regarding the outbreak of a red-tide occurrence. Researchers can also use stored data to identify historical red-tide patterns or trends.

Networks and Partners

While AXYS sells dozens of one-off buoy systems every year, its primary focus is on the development and maintenance of buoy networks. AXYS currently supplies equipment and field services for the world's second largest buoy network in Canada. For several years AXYS has provided wave buoys, sensors and services for large, operational networks throughout the world. More recently, the company has been called on to supply the first buoys or similar monitoring devices, such as tide gauges, for new networks.

One of the company's marine marketing strategies is to use knowledgeable agents and partners in order to successfully compete and win international business. More than fifteen such agents or partnerships have been established by AXYS around the world, and this network will continue to grow in the future.

Key partnerships have also been established with existing suppliers and manufacturers, such as Carmanah Technologies Inc and Nortek. Such arrangements allow the strengths of both parties to be combined and leveraged, giving increased marketing or sales opportunities in various targeted markets.

Future Expectations

The marine environment faces many new and existing challenges as we move through the twenty-first century. The threat of terrorism will probably continue, requiring governments around the world to increase security measures of all kinds. The threat of global warming, hurricanes, red tide, oil spills or other environmental events will force governments to place a high priority on ensuring appropriate monitoring systems are in place. NOAA, as one example, is already making great advances in protecting the world's oceans. While the implications of some of these threats are not pleasant, this does mean that demand for environmental monitoring products will remain high for the foreseeable future. AXYS stands ready to work with various industry partners to help solve these issues.